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## ACCOUNT OF AN ENGLISH MANUFACTURING VILLAGE.—*Concluded.*

The importance of good manners among this class of people, as among all others, appeared to me to be very great—more so than is generally acknowledged—for though every one approves and admires them when met with, little attention is paid to their cultivation in the systems of instruction for the laboring classes; and our national habits and institutions do not give any opportunity of supplying, in after life, this deficiency in their early education. I wish to see our people distinguished by their good manners, not so much for the sake of those manners, as because they indicate more than they show, and they tend powerfully to nourish and protect the growth of the virtues which they indicate. What are they, indeed, when rightly considered, but the silent though active expression of Christian feelings and dispositions? The gentleness—the tenderness—the delicacy—the patience—the forbearance—the fear of giving pain—the repression of all angry and resentful feelings—the respect and consideration due to a fellow man, and which every one should be ready to pay and expect to receive—what is all this but the very spirit of courtesy? what is it but the very spirit of Christianity? And what is there in this that is not equally an ornament to the palace and the cottage—to the nobleman and the peasant?

Another point which has appeared to me of great importance is to provide as many resources as possible of interest and amusement for their leisure hours; something to which they may return with renewed relish when their daily work is done, which may render their homes cheerful and happy, and may, afford subjects of thought, conversation and pursuit among them. The importance of this can only be estimated by observing the ruinous effects of the want of it; a want which is not confined to the laboring classes, but is shared with them by their more privileged neighbors in the walks of fashionable and cultivated life. The same want of interest and occupation which leads so many in the higher circles of society to trifle away their lives in the most frivolous, unproductive, and heartless pursuits, or to fly from ennui by pursuing the fiercer forms of artificial excitement,—when confined to those whose range of objects and opportunities is necessarily more limited, leads them into evils which differ only in the taste of the individuals and the small variety of means for killing time which their situation can command. The forms of the evils among them are low company, neglect of home and domestic duties, the frequenting of the public house, contracting the habits of a drunkard, and seeking for pleasure among the vulgar amusements that brutalise their character while they depress and impoverish their condition. But the source of the evil itself is in both cases the same, viz., the having nothing to do:—nothing to supply that want of our nature which demands recreation after toil, as well as toil to give relish to recreation,—nothing to occupy the thoughts, which insist on being occupied with something; nothing for him to pursue, who is by nature an animal of pursuit,—nothing innocently to engage the affections which absolutely refuse to be left void. This is the real evil—the foundation of the mischief. This want of resource and recreation is not to be supplied by mere intellectual pursuits. There are many whose minds are not sufficiently cultivated to avail themselves of these; they have little or no taste for them, and yet are quite capable of being made very worthy, sensible, respectable, and happy men. Resources must be provided of sufficient variety to supply the different tastes and capacities we have to

deal with, and we must not shut our gates against any, merely because they feel no ambition to become philosophers. By gently leading them, or rather perhaps by letting them find their own way, from one step to another, you may at length succeed in making them what you wish them to be.

It is with these views that I have endeavored to provide objects of interesting pursuit or innocent amusement for our colony. The gardens, and the cultivation of flowers, which is encouraged by exhibitions and prizes, occupy the summer evenings of many of the men or elder boys. Our music and singing engage many of both sexes,—young and old, learned and unlearned. We have a small glee class that meets once a week round a cottage fire. There is another more numerous for sacred music that meets every Wednesday and Saturday during the winter, and really performs very well, at least I seldom hear music that pleases me more. A number of the men have formed a band, with clarionets, horns, and other wind instruments, and meet twice a week to practice, besides blowing and trumpeting nightly at their own homes. A few families are provided with pianos, and here I believe all the children of the household play on them. The guitar also is an instrument not unknown among us, and to these may be added sundry violins, violoncellos, serpents, flutes, and some sort of thing they call a *dulcimer*, so that I suppose we really number as many instruments as played before the image of Nebuchadnezzar; and when you remember how few families we muster,—not more than seventy or eighty,—you will think with me that we are quite a musical society, and that any trouble I took at first to introduce this pursuit has been amply repaid. You must observe that all these instruments are entirely their own—and of their own purchasing,—I have nothing to do with them, further than now and then helping them to remunerate their teachers.

We find drawing almost as useful a resource as music, except that a much smaller number engage in it. The boys only, to the number of thirty, or thereabouts, assemble every Saturday evening to learn this, and some of them have made considerable progress, and are very fond of it. Some of these also study chemistry, mechanics, or history. We let them take almost anything they like, only making it a condition that they persevere in it during the whole winter, and really make a study of the subject, which we ascertain by occasional examinations. Then we have a tolerably good library, to which I think some individuals of almost every family subscribe, and the members of it have the liberty of access to the reading-room, which is open on two evenings in the week, and furnished with newspapers, books, and chess-boards. These last are a great attraction to boys, and draw many thither to whom the love of book-knowledge I fear would not offer any sufficient allurements. That I care little about. It is better than gathering together in knots about the lanes, and obstructing the gateways, and plotting of executing mischief, and that was the alternative; so that whether they are playing at chess or marbles, or studying the wonders of the heavens or the structure of the earth, I care comparatively little. They are there. They are doing something. They are at least innocently employed. They are under my eye or the eye of their elders; and while they are learning their games, they are learning a great deal more.

Our object ought to be, not to produce a few clever individuals, distinguished above their fellows by their comparative superiority, but to make the gre 1

mass of individuals on whom we are operating, virtuous, sensible, well-informed, and well-bred men.

My object therefore is not to raise the manufacturing operatives above their condition, but to make them ornaments to it—and thus to elevate the condition itself. I wish to make them feel that they have within their reach all the elements of earthly happiness, as abundantly as those to whose station their ambition sometimes leads them to aspire. That domestic happiness—real wealth—social pleasures—means of intellectual improvement—endless sources of rational amusement—all the freedom and independence possessed by any class of men, are all before them. To show to my people and to others, that there is nothing in the nature of their employment, or in the condition of their humble lot, that condemns them to be rough, vulgar, ignorant, miserable, or poor; that there is nothing in either that forbids them to be well-bred, well-informed, well-mannered, and surrounded by every comfort and enjoyment that can make life happy; in short, to ascertain and to prove what the condition of this class of people might be made—what it ought to be made—what is the interest of all parties that it should be made. This is all my aim—my alpha and omega. And I cannot help hoping that, if after a few years, when the habits of our population shall be more fixed, and their general character matured by time, death or necessity should take me from them, I cannot help hoping that the seed I have endeavored to sow in this little spot, will not perish—that the lessons I have taught will not be forgotten—that the minds I have tried to open will not relapse into insensibility—that those who have been awakened to a perception of what is beautiful and good, whether in nature, in art, in taste, or in human character, will not forget to feel, to admire, and to love it; that those who for many years have lived together, like the members of a happy and united family, will not cease that union, because the friend is no longer there who so earnestly promoted it; whose frequent prayer among them was for unity, peace, and concord—and whose yearly wish publicly expressed in the presence of them all, was that every year as it rolled away, would find them more and more worthy of each other's respect and love.

#### LOWELL, MASS.

The city of Lowell exhibits probably as favorable an example of the actual working of the factory system on a large scale, as can be found in any part of the world.

The city has grown up within twenty years. It was incorporated as a town in 1826, and as a city in 1836. In 1826, the population on the territory (2 miles square) was less than 200, and the value of the property did not exceed \$100,000: in 1840, there was a population of 20,981, and property to the amount of \$12,400,000, according to the last valuation. There are eleven manufacturing corporations, with an aggregate capital of \$10,500,000; 32 cotton mills, running 166,044 spindles and 5,183 looms; consuming 19,256,600 pounds of cotton, and manufacturing 58,263,400 yards of cloth per annum; and employing 6,430 female and 2,077 male operatives. The average wages of females, exclusive of board, is \$2 per week, and many earn double that amount. The sum paid out for wages is \$160,000 per month, and of 1,976 depositors in the Lowell Institutions for Savings, 978 are factory girls, and out of \$305,796 deposited on interest, \$100,000 belongs to them.

Most of the females board at the boarding houses, erected by the mill owners, and rented at reduced rates to the families who keep them. In seasons of depression, their rents are often remitted to enable the keepers to reduce the price of board. The food, though generally plain, is of good quality and ample in quantity.

The working population are as well, if not better dressed, than in any of our large towns or cities. An Englishman, on observing a long line of them retiring at the close of labor, and thinking of the same class at home, could not but express his surprise that every one of them had on shoes. He was still more surprised to learn that in one mill alone, there were 150 females who had at some time been engaged in teaching school.

The health of the manufacturing population, and especially of the female portion is remarkably good. According to the testimony of Dr. Bartlett "the general and comparative good health of the girls employed in the mills here, and their freedom from serious disease have long been subjects of common remark among our most intelligent and experienced physicians. *The manufacturing population of this city is the healthiest portion of the population*, and there is no reason why this should not be the case. They are but little exposed to many of the strongest and most prolific causes of disease, and very many of the circumstances which surround and act upon them are of the most favorable hygienic character. They are regular in all their habits. They are early up in the morning, and early to bed at night. Their fare is plain, substantial and good, and their labor is sufficiently active and sufficiently light to avoid the evils arising from the two extremes of indolence and over-exertion. They are but little exposed to the sudden vicissitudes and to the excessive heats or colds of the seasons, and they are very generally free from anxious and depressing cares."

The agents or directors of the several corporations have converted the most spacious and elegant mansion in the city into a boarding house or hospital for the sick. This is a noble and christian institution. Spacious and beautiful rooms, well warmed and ventilated, with the best medical attendance and nursing make up a combination of comforts for the sick which are not often met with even in the best regulated homes of the inmates. For all these accommodations, the charge is only three dollars a week for females, and no one in the employ of the corporation is shut out on account of her inability to pay.

There are sixteen organized religious societies in Lowell, in which there are enrolled more than six thousand Sunday school pupils and teachers, being one third part of the entire population of the city.

"There is not to be found in New England a body of clergymen, more zealous, laborious and devoted to their great duties than our own.

By their own personal efforts, in the pulpit and out of it, and through the instrumentality of their teachers in their Sunday schools, an aggregate amount of good influence is brought to bear upon this part of our population, *unequalled*—I have no hesitation in saying it—in *any part of the country*. The relationship which is here established between the Sunday school scholar and her teacher—between the member of the church and her pastor—the attachments which spring up between them are rendered close and strong by the very circumstances in which these girls are placed. These relationships and these attachments take the place of the domestic ties and the home affections and they have something of the strength and fervency of these.”

Various associations for intellectual improvement by means of lectures, debates &c, have from time to time been formed.

“The most remarkable institution is the Mechanic Association. Some intelligent mechanics formed a Society, and obtained an act of incorporation as early as 1825, before the town was incorporated. Their object was to furnish means of improvement. Eight or ten years afterward the proprietors of Locks and Canals gave them a lot of land in the heart of the city, whereon the Association erected a costly brick edifice; to the completion of which all the manufacturing companies contributed with liberal hand. The Mechanics Hall occupies a central position, opposite the railroad depot; has a spacious hall for lectures, in which the association procures one or more courses annually. The association has a library, exceeding 2,000 volumes, an extensive News and Reading Room, supplied with the best newspapers from all parts of the country, and the most approved periodical publications. This room is always open, and subscription to it so cheap, that every one can afford to be a subscriber. In the same building, rooms are provided for chemical and other philosophical purposes, and a collection of 4,000 mineralogical specimens is placed in them.”

The public schools of Lowell are sustained on a broad and liberal scale, and will compare favorably with those of any large town or city in the country.

The following statistics are taken from the annual Report of the School Committee for the year ending April 4th, 1842.

|  |          |
|--|----------|
| Population in 1840                             | 20,981   |
| Number of persons over 4 and under 16, 4,000   |          |
| Average number belonging to the schools, 3,449 |          |
| Amount paid for teachers' wages—               |          |
| High School                                    | \$3,088  |
| 8 Grammar Schools                              | 9,457    |
| 6 Writing Masters                              | 1,677    |
| 24 Primary Schools                             | 5,094    |
|  | \$19,316 |
| Fuel   | 1,686    |
| Rent, repairs, &c.                             | 2,553    |
| Aggregate amount of current expenses           |          |
| for 1841                                       | \$23,557 |
| Estimated expense for 1842                     | 25,000   |

The school houses are all of them substantial, convenient, and even elegant buildings. More than \$60,000 were expended in 1839–40 in this way.

The public schools are divided into three grades, viz: twenty four primary schools; eight grammar schools; and one high school, and all of them maintained by direct tax on the whole city. The primary schools are taught entirely by females, and receive children under seven years of age and until they are qualified for admission to the grammar schools—the average number to each school is sixty.

The grammar schools receive those who can bring a certificate, or pass an examination in the common stops and abbreviations, and in easy reading and spelling. These schools are divided into two departments—one for boys, and the other for girls, and are taught by a male principal and assistant, two female assistants and a writing master. The number of scholars is about 200 in each department. The studies are the common branches of an English education.

The High School prepares young men for college, and carries forward the education of the young of both sexes in the studies previously pursued in the grammar schools, as well as in Algebra, Geometry, Rhetoric, Astronomy, Practical Mathematics, Natural History, Moral Philosophy, Book-Keeping, Composition, and the evidences of Christianity. Pupils are admitted, on examination, twice a year, in the studies of the grammar schools. There are two departments, one under a male and the other a female principal, assisted by two assistants, and a teacher of plain and ornamental penmanship.

The care and superintendence of the public schools are entrusted to a committee, not exceeding twelve, elected annually. The committee must choose a chairman, secretary, and a subcommittee for each school, with appropriate duties. The general committee elect teachers, determine their salaries, remove those who are incompetent, and make all necessary regulations respecting the studies, books, and discipline of the schools. They must meet at least once a month. The sub-committee must visit and examine into the progress of each of his particular school or schools once a month, and report at the regular meeting of the board.

No better education can be obtained in the English or in the preparatory classical studies, in any school, and the richest and best educated parents are glad to avail themselves of these public institutions. Owing to the number of Catholic families, Catholic teachers are provided in five primary and one grammar school, in parts of the city where that population predominates. This arrangement has secured the attendance of that class of children, and the hearty co-operation of their clergy.



## EDUCATION AND LABOR:

OR THE INFLUENCE OF EDUCATION ON THE QUALITY AND VALUE OF LABOR.

### EXTRACTS

From the Fifth Annual Report of the Secretary of the Massachusetts Board of Education, January 1, 1842.

During the past year I have opened a correspondence, and availed myself of all opportunities to hold personal interviews with many of the most practical, sagacious, and intelligent business men amongst us, who for many years have had large numbers of persons in their employment. My object has been to ascertain the difference in the productive ability,—where natural capacities have been equal,—between the educated and the uneducated,—between a man or woman whose mind has been awakened to thought and supplied with the rudiments of knowledge, by a good Common School education, and one whose faculties have never been developed, or aided in emerging from their original darkness and torpor by such a privilege. For this purpose I have conferred and corresponded with manufacturers of all kinds, with machinists, engineers, rail-road contractors, officers in the army, &c. These various classes of persons have means of determining the effects of education on individuals, equal in their natural abilities, which other classes do not possess.

Now many of the most intelligent and valuable men in our community, in compliance with my request,—for which I tender them my public and grateful acknowledgments,—have examined their books for a series of years, and have ascertained both the quality and the amount of work performed by persons in their employment; and the result of the investigation is a most astonishing superiority in productive power, on the part of the educated over the uneducated laborer. The hand is found to be another hand, when guided by an intelligent mind. Processes are performed not only more rapidly, but better, when faculties which have been exercised in early life, furnish their assistance. Individuals who, without the aid of knowledge, would have been condemned to perpetual inferiority of condition, and subjected to all the evils of want and poverty, rise to competence and independence, by the uplifting power of education. In great establishments, and among large bodies of laboring men, where all services are rated according to their pecuniary value, where there are no extrinsic circumstances to bind a man down to a fixed position, after he has shown a capacity to rise above it;—where, indeed, men pass by each other, ascending or descending in their grades of labor, just as easily and certainly as particles of water of different degrees of temperature glide by each other,—there it is found as almost an invariable fact,

—other things being equal,—that those who have been blessed with a good Common School education, rise to a higher and higher point, in the kinds of labor performed, and also in the rate of wages paid, while the ignorant sink, like dregs, and are always found at the bottom.

[The conclusions above expressed, are founded on the following evidence, furnished in reply to Mr. Mann's Circular Letter, from which we extract the interrogatories.]

First,—Have you had large numbers of persons in your employment or under your superintendence? If so, will you please to state how many? Within what period of time? In what department of business? Whether at different places? Whether natives or foreigners?

Second,—Have you observed differences among the persons you have employed, growing out of differences in their education, and independent of their natural abilities; that is, whether as a class, those who from early life, have been accustomed to exercise their minds by reading and studying, have greater docility and quickness in applying themselves to work; and, after the simplest details are mastered, have they greater aptitude, dexterity or ingenuity in comprehending ordinary processes, or in originating new ones? Do they more readily or frequently devise new modes by which the same amount of work can be better done, or by which more work can be done in the same time, or by which raw material or motive power can be economized? In short, do you obtain more work and better work with less waste, from those who have received what, in Massachusetts, we call a good Common School education, or from those who have grown up in neglect and ignorance? Is there any difference in the earnings of these two classes, and consequently in their wages?

Third,—What, within your knowledge, has been the effect of higher degrees of mental application and culture upon the domestic and social habits of persons in your employment? Is this class more cleanly in their persons, their dress and their households; and do they enjoy a greater immunity from those diseases which originate in a want of personal neatness and purity? Are they more exemplary in their deportment and conversation, devoting more time to intellectual pursuits or to the refining art of music, and spending their evenings and leisure hours more with their families, and less at places of resort for idle and dissipated men? Is a smaller portion of them addicted to intemperance? Are their houses kept in a superior condition? Does a more economical and judicious mode of living purchase greater comforts at the same expense, or equal comforts with less means? Are their families better brought up, more respectably dressed, more regularly attendant upon the school and the church; and do their children when arrived at years of maturity, enter upon the active scenes of life with better prospects of success?

Fourth,—In regard to standing and respectability among co-laborers, neighbors, and fellow citizens generally, how do those who have enjoyed and improved the privilege of good Common Schools, compare with the neglected and the illiterate? Do the former exercise greater influence among their associates? Are they more often applied to for advice and counsel in cases of difficulty; or selected as umpires or arbitrators for the decision of minor controversies? Are higher and more intelligent circles for acquaintance open to them, from conversation

and intercourse with which, their own minds can be constantly improved. Are they more likely to rise from grade to grade in the scale of labor, until they enter departments where greater skill, judgment, and responsibility are required, and which therefore command a larger remuneration? Are they more likely to rise from the condition of employees and to establish themselves in business on their own account?

Fifth,—Have you observed any difference in the classes above named (I speak of them as classes, for there will of course be individual exceptions,) in regard to punctuality and fidelity in the performance of duties? Which class is most regardless of the rights of others, and most intelligent and successful in securing their own? You will of course perceive that this question involves a more general one, viz., from which of the above described classes, have those who possess property, and who hope to transmit it to their children, most to fear from secret aggression, or from such public degeneracy as will loosen the bands of society, corrupt the testimony of witnesses, violate the sanctity of the juror's oath and substitute as a rule of right, the power of a numerical majority, for the unvarying principles of justice?

Sixth,—Finally, in regard to those who possess the largest shares in the stock of worldly goods, could there, in your opinion, be any police so vigilant and effective, for the protection of all the rights of person, property and character, as such a sound and comprehensive education and training, as our system of Common Schools could be made to impart; and would not the payment of a sufficient tax to make such education and training universal, be the cheapest means of self-protection and insurance? And in regard to that class which, from the accident of birth and parentage, are subjected to the privations and the temptations of poverty, would not such an education open to them new resources in habits of industry and economy, in increased skill, and the awakening of inventive power, which would yield returns a thousand fold greater than can ever be hoped for, from the most successful clandestine depredations, or open invasion of the property of others?

Letter from J. K. Mills, Esq., Boston.

The house with which I am connected in business, has had for the last ten years, the principal direction of cotton mills, machine shops and calico printing works, in which are constantly employed about three thousand persons. The opinions I have formed of the effects of a Common School education upon our manufacturing population, are the result of personal observation and inquiries, and are confirmed by the testimony of the overseers and agents, who are brought into immediate contact with the operatives. They are as follows:—

1.—That the rudiments of a Common School education are essential to the attainment of skill and expertness as laborers, or to consideration and respect in the civil and social relations of life.

2.—That very few, who have not enjoyed the advantages of a Common School education, ever rise above the lowest class of operatives; and that the labor of this class, when it is employed in manufacturing operations, which require even a very moderate degree of manual or mental dexterity, is unproductive.

3.—That a large majority of the overseers, and others employed in situations which re-

quire a high degree of skill in particular branches; which, oftentimes require a good general knowledge of business, and, *always*, an unexceptionable moral character, have made their way up from the condition of common laborers, with no other advantage over a large proportion of those they have left behind, than that derived from a better education.

A statement made from the books of one of the manufacturing companies under our direction, will show the relative number of the two classes, and the earnings of each. This mill may be taken as a fair index of all the others.

The average number of operatives annually employed for the last three years, is 1200. Of this number, there are 45 unable to write their names, or about 3½ per cent.

The average of women's wages, in the departments requiring the most skill, is \$2.50 per week, exclusive of board.

The average of wages in the lowest departments, is \$1.25 per week.

Of the 45 who are unable to write, 29, or about two thirds, are employed in the lowest department. The difference between the wages earned by the 45, and the average wages of an equal number of the better educated class, is about 27 per cent. in favor of the latter.

The difference between the wages earned by 29 of the lowest class, and the same number in the higher, is 66 per cent.

Of 17 persons filling the most responsible situations in the mills, 10 have grown up in the establishment from common laborers or apprentices.

This statement does not include an importation of 63 persons from Manchester, in England, in 1839. Among these persons, there was scarcely one who could read or write, and although a part of them had been accustomed to work in cotton mills, yet, either from incapacity or idleness, they were unable to earn sufficient to pay for their subsistence, and at the expiration of a few weeks, not more than half a dozen remained in our employment.

In some of the print works, a large proportion of the operatives are foreigners. Those who are employed in the branches which require a considerable degree of skill, are as well educated as our people, in similar situations. But the common laborers, as a class, are without any education, and their average earnings are about two-thirds only of those of our lowest classes, although the prices paid to each are the same, for the same amount of work.

Among the men and boys employed in our machine shops, the want of education is quite rare; indeed, I do not know an instance of a person who is unable to read and write, and many have had a good Common School education. To this may be attributed the fact that a large proportion of persons who fill the higher and more responsible situations, came from this class of workmen.

From these statements, you will be able to form some estimate, in dollars and cents, at least,

of the advantages of a little education to the operative; and there is not the least doubt that the employer is equally benefited. He has the security for his property that intelligence, good morals, and a just appreciation of the regulations of his establishment, always afford. His machinery and mills, which constitute a large part of his capital, are in the hands of persons, who, by their skill, are enabled to use them to their utmost capacity, and to prevent any unnecessary depreciation.

Each operative in a cotton mill may be supposed to represent from one thousand to twelve hundred dollars of the capital invested in the mill and its machinery. It is only from the most diligent and economical use of this capital that the proprietor can expect a profit. A fraction less than one half of the cost of manufacturing common cotton goods, when a mill is in full operation, is made up of charges which are permanent. If the product is reduced in the ratio of the capacity of the two classes of operatives mentioned in this statement, it will be seen that the cost will be increased in a compound ratio.

My belief is, that the best cotton mill in New England, with such operatives only as the 45 mentioned above, who are unable to write their names, would never yield the proprietor a profit; that the machinery would soon be worn out, and he would be left, in a short time, with a population no better than that which is represented, as I suppose, very fairly, by the importation from England.

I cannot imagine any situation in life, where the want of a Common School education would be more severely felt, or be attended with worse consequences, than in our manufacturing villages; nor, on the other hand, is there any, where such advantages can be improved, with greater benefit to all parties.

There is more excitement and activity in the minds of people living in masses, and if this expends itself in any of the thousand vicious indulgences with which they are sure to be tempted, the road to destruction is travelled over with a speed exactly corresponding to the power employed.

Letter from H. Bartlett, Esq., Lowell.

I have been engaged, for nearly ten years, in manufacturing, and have had the constant charge of from 400 to 900 persons, during that time. The greater part of them have been Americans; but there have always been more or less foreigners. During this time, I have had charge of two different establishments, in different parts of the State.

In answering your second interrogatory, I can say, that I have come in contact with a very great variety of character and disposition, and have seen mind applied to production in the mechanic and manufacturing arts, possessing different degrees of intelligence, from gross ignorance to a high degree of cultivation;—

and I have no hesitation in affirming that I have found the best educated, to be the most profitable help; even those females who merely tend machinery, give a result somewhat in proportion to the advantages enjoyed in early life for education,—those who have a good Common School education giving, as a class, invariably, a better production than those brought up in ignorance.

The former make the best wages. If any one should doubt the fact, let him examine the pay-roll of any establishment in New England, and ascertain the character of the girls who get the most money, and he will be satisfied that I am correct. I am equally clear that, as a class, they do their work better. There are many reasons why it should be so. They have more order, and system; they not only keep their persons neater, but their machinery in better condition.

But there are other advantages, besides mere knowledge growing out of a Common School education. Such an education is calculated to strengthen the whole system, intellectual, moral and physical. It educates the whole man or woman, and gives him or her more energy and greater capacity for production in all departments of labor. Minds formed by such an education are superior in the combination and arrangement of what is already known, and more frequently devise new methods of operation.

Your third inquiry relates to the effect of education upon the domestic and social habits of persons in my employ. I have never considered mere knowledge, valuable as it is in itself to the laborer, as the only advantage derived from a good Common School education. I have uniformly found the better educated, as a class, possessing a higher and better state of morals, more orderly and respectful in their deportment, and more ready to comply with the wholesome and necessary regulations of an establishment. And in times of agitation, on account of some change in regulations or wages, I have always looked to the most intelligent, best educated, and the most moral for support, and have seldom been disappointed. For, while they are the last to submit to imposition, they *reason*, and if your requirements are reasonable, they will generally acquiesce, and exert a salutary influence upon their associates. But the ignorant and uneducated I have generally found the most turbulent and troublesome, acting under the impulse of excited passion and jealousy.

The former appear to have an interest in sustaining good order, while the latter seem more reckless of consequences. And, to my mind, all this is perfectly natural. The better educated have more, and stronger attachments binding them to the place where they are. They are generally neater, as I have before said, in their persons, dress and houses; surrounded with more comforts, with fewer of



"the ills which flesh is heir to." In short, I have found the educated, as a class, more cheerful and contented,—devoting a portion of their leisure time to reading and intellectual pursuits, more with their families and less in scenes of dissipation.

The good effect of all this, is seen in the more orderly and comfortable appearance of the whole household, but no where more strikingly than in the children. A mother who has had a good Common School education will rarely suffer her children to grow up in ignorance.

As I have said, this class of persons is more quiet, more orderly, and I may add, more regular in their attendance upon public worship, and more punctual in the performance of all their duties.

Your fourth inquiry refers to the relative stand taken in society by those who have received an early education, and my answers to your inquiries under that head, might be inferred from what I have already said. My remarks before have referred quite as much to females as to males, but what I shall say under this, will refer particularly to the latter.

I have generally observed individuals exerting an influence among their co-laborers and citizens, somewhat in proportion to their education. And in cases of difficulty and arbitration, the most ignorant have paid an involuntary respect to the value of education, by the selection of those who have enjoyed its benefits, for the settlement of their controversies.

It would be very difficult, if not impossible, for a young man, who had not an education equal to a good Common School education, to rise from grade to grade, until he should obtain the birth of an overseer; and in making promotions, as a general thing, it would be unnecessary to make inquiry as to the education of the young men from whom you would select; for their mental cultivation would be sufficiently indicated by their general appearance and standing among their fellows; and, if you had reference to merit and qualifications, very seldom indeed would an uneducated young man rise to "*a better place and better pay.*"

Young men who expect to resort to manufacturing establishments for employment cannot prize too highly a good education. It will give them standing among their associates, and be the means of promotion from their employers.

Your fifth interrogatory refers to difference of moral character in the two classes, and the dangers which society or men of property have to apprehend from the one or the other. I do not know that I can better answer your inquiries under this head than to give you my views of the value, in a *pecuniary* point of view, of education and morality to the stockholders of our manufacturing establishments. If they have no danger to apprehend from a general diffusion of knowledge among those in their employ, if it is a fact that that class of help which has enjoyed a good Common School education,

are the most tractable, yielding most readily to reasonable requirements, exerting a salutary and conservative influence in times of excitement, while the most ignorant are the most refractory; then, it appears to me that the public at large ought to be satisfied that they have more danger to apprehend from the ignorant than from the well educated. I am aware that there is a feeling to a certain, but I hope limited extent, that knowledge among the great mass is dangerous; that it creates discontent, and tends to insubordination. But I believe the fear to be groundless, and that our danger will come from an opposite source. In my view, there is a connection between education and morals, and I believe that our Common Schools have been nurseries not only of learning, but of sound morality, and I trust they will always be surrounded by such influences as will strengthen and confirm the moral principles of our youth, and I am confident that so long as that shall be the case, society is safe.

From my observation and experience, I am perfectly satisfied that the owners of manufacturing property have a deep pecuniary interest in the education and morals of their help; and I believe the time is not distant when the truth of this will appear more and more clear. And as competition becomes more close, and small circumstances of more importance in turning the scale in favor of one establishment over another, I believe it will be seen that the establishment, other things being equal, which has the best educated and the most moral help, will give the greatest production at the least cost per pound. So confident am I that production is affected by the intellectual and moral character of help, that whenever a mill or a room should fail to give the proper amount of work, my first inquiry, after that respecting the condition of the machinery, would be, *as to the character of the help*, and if the deficiency remained any great length of time, I am sure I should find many who had made their marks upon the pay-roll, being unable to write their names; and I should be greatly disappointed if I did not, upon inquiry, find a portion of them of irregular habits and suspicious character. My mind has been drawn to this subject for a long time. I have watched its operation, and seen its result, and am satisfied that the pecuniary interest of the owners is promoted by the general diffusion of knowledge and morality among those in their employ.

Lowell is a striking illustration of the truth of my remarks on this subject. Probably no other place has done as much for the education and morality of those engaged in manufacturing. She has 23 public schools, 15 churches, and numerous associations for intellectual improvement;—and the result is seen, not only in the orderly and temperate character of the people, but in the great productiveness of the mills. And where, I would ask, is manufacturing stock of more value? If any one doubts the connection between these institutions and

the price of stocks, let the former be destroyed, let those lights be extinguished, let ignorance and vice take the place of intelligence and virtue, let the prevailing influence here be against schools and churches, and my opinion is, that the moral character of the people would not decline faster than the price of manufacturing stocks. The founders of this place were clear and far-sighted men, and they put in operation a train of moral influences which has formed and preserved a community distinguished for intelligence, virtue, and great energy of character. Should any owner or manager think otherwise, and surround himself with the ignorant and unprincipled, because for a time he might get them for less wages, I am confident that loss in production would more than keep pace with reduction in pay,—to say nothing of the insecurity of property in the hands of such persons.

In short, in closing my answer to your fifth interrogatory, I consider that "those who possess property and hope to transmit it to their children," have nothing to fear from the general diffusion of knowledge, that if their rights are ever invaded, or their property rendered insecure, it will be when ignorance has corrupted the public mind, and prepared it for the controlling influence of some master-spirit, possessing intelligence without principle.

Finally, in answering your sixth and last interrogatory, I remark, that "those who possess the greatest share in the stock of worldly goods," are deeply interested in this subject as one of mere insurance;—that the most effectual way of making insurance on their property would be to contribute from it enough to sustain an efficient system of Common School education, thereby educating the whole mass of mind, and constituting it a police more effective than peace officers or prisons. By so doing they would bestow a benefaction upon "that class, who, from the accident of birth or parentage, are subjected to the privations and temptations of poverty," and would do much to remove the prejudice, and to strengthen the bands of union between the different and extreme portions of society. The great majority always have been, and probably always will be, comparatively poor, while a few will possess the greatest share of this world's goods. And it is a wise provision of Providence which connects so intimately, and as I think so indissolubly, the greatest good of the many, with the highest interest of the few.

Extract of a Letter from J. Clark, Esq., Lowell.

I have recently instituted some inquiries into the comparative wages of our different classes of operatives; and among other results, I find the following applicable to our present purpose. On our pay-roll for the last month, are borne the names of 1229 female operatives, 40 of whom receipted for their pay by "making their mark." Twenty-six of these have been employed in job-work, that is, they were paid according to the quantity of work turned off

from their machines. The average pay of these 26 falls 18½ per cent. below the general average of those engaged in the same departments.

Again, we have in our mills about 150 females who have at some time, been engaged in *teaching schools*. Many of them teach during the summer months, and work in the mills in winter. The average wages of these ex-teachers I find to be 17¼ per cent. *above the general average of our mills, and about 40 per cent. above the wages of the twenty-six who cannot write their names.* It may be said that they are generally employed in the higher departments, where the pay is better. This is true, but this again may be, in most cases, fairly attributed to their better education, which brings us to the same result. If I had included in my calculations, the remaining 14 of the 40, who are mostly sweepers and scrubbers, and who are paid by the day, the contrasts would have been still more striking; but having no well educated females engaged in this department with whom to compare them, I have omitted them altogether. In arriving at the above results I have not considered the *net wages* merely—the price of board being in all cases the same. I do not consider these results as either extraordinary, or surprising, but as a part only of the legitimate and proper fruits of a better cultivation, and fuller development of the intellectual and moral powers.

The Secretary in view of these facts and opinions, remarks:

These are a fair specimen, and no more than a fair specimen, of a mass of facts which I have obtained from the most authentic sources. They seem to prove incontestibly that education is not only a moral renovator, and a multiplier of intellectual power, but that it is also the most prolific parent of material riches. It has a right, therefore, not only to be included in the grand inventory of a nation's resources, but to be placed at the very head of that inventory. It is not only the most honest and honorable, but the surest means of amassing property.

Considering education, then, as a producer of wealth, it follows that the more educated a people are, the more will they abound in all those conveniences, comforts and satisfactions which money will buy; and, other things being equal, the increase of competency and the decline of pauperism will be measurable on this scale. There are special reasons giving peculiar force to these considerations in the State of Massachusetts, [and, we may add, in New England generally.] Our population is principally divided into agriculturalists, manufacturers and mechanics. We have no *idle* class,—no class born to such hereditary wealth, as supersedes the necessity of labor, and no class subsisting by the services of hereditary bondmen. All, with exceptions too minute to be noticed, must live by their own industry and frugality. The master and the laborer



are one; and hence the necessity that all should have the health and strength by which they can work, and the judgment and knowledge by which they can plan and direct. The muscle of a laborer and the intelligence of an employer must be united in the same person.

The healthful and praise-worthy employment of Agriculture, requires knowledge for its successful prosecution. In this department of industry, we are in perpetual contact with the forces of nature. We are constantly dependent upon them for the pecuniary returns and profits of our investments, and hence the necessity of knowing what those forces are, and under what circumstances they will operate most efficiently, and will most bountifully reward our original outlay of money and time.

Why is it, that, if we except Egypt, all the remaining territory of Africa, containing nearly ten millions of square miles, with a soil, most of which is incomparably more fertile by nature, produces less for the sustenance of man and beast, than England, whose territory is only fifty thousand square miles. In the latter country, knowledge has been a substitute for a genial climate and an exuberant soil; while in the former, it is hardly a figurative expression to say, that all the maternal kindness of nature, powerful and benignant as she is, has been repulsed by the ignorance of her children. Doubtless, industry as well as knowledge is indispensable to productiveness; but knowledge must precede industry, or the latter will work to so little effect as to become discouraged and to relapse into the slothfulness of savage life. But without further exposition, it may be remarked generally, that the spread of intelligence through the instrumentality of good books, and the cultivation in our children of the faculties of observing, comparing and reasoning, through the medium of good schools, would add millions to the agricultural products of the Commonwealth, without imposing upon the husbandman an additional hour of labor.

In regard to another branch of industry, the State of Massachusetts presents a phenomenon which, all things being considered, is unequalled in any part of the world. I refer to the distribution or apportionment of its citizens, among the different departments of labor.

With a population of only eighty-seven thousand engaged in agriculture, we have eighty-five thousand engaged in manufactures and trades. If to the eighty-five thousand engaged in manufactures and trades, are added the twenty-seven, (almost twenty-eight) thousand employed in navigating the ocean, and to whom, as a class, the succeeding views are to a great extent, applicable, we shall find that the capital and labor of the State embarked in the latter employments, far exceed those devoted to agricultural pursuits.

Now for the successful prosecution,—it may almost be said, for the very existence amongst us of the manufacturing and mechanic arts, there must be, not only the exactness of sci-

ence, but also exactness or skill in the application of scientific principles, throughout the whole processes, either of constructing machinery, or of transforming raw materials into finished fabrics.

The cultivation of these arts is conferring a thousand daily accommodations and pleasures upon the laborer in his cottage, which, only two or three centuries ago, were luxuries in the palace of the monarch. Through circumstances incident to the introduction of all economical improvements, there has hitherto been great inequality in the distribution of their advantages, but their general tendency is greatly to ameliorate the condition of the mass of mankind. It has been estimated that the products of machinery in Great Britain, with a population of eighteen millions, is equal to the labor of hundreds of millions of human hands. This vast gain is effected without the conquest or partitioning of the territory of any neighboring nation, and without rapine or the confiscation of property already accumulated by others. It is an absolute creation of wealth,—that is, of those articles, commodities, improvements, which we appraise and set down, as of a certain monied value, alike in the inventory of a deceased man's estate, and in the grand valuation of a nation's capital. These contributions to human welfare have been derived from knowledge,—from knowing how to employ those natural agencies, which from the beginning of the race had existed, but had lain dormant, or run uselessly away. For mechanical purposes, what is wind, or water, or the force of steam worth, until the ingenuity of man comes in, and places the wind-wheel, the water-wheel, or the piston, *between* these mighty agents and the work he wishes them to perform; but after the invention and intervention of machinery, how powerful they become for all purposes of utility.

But the talent of improving upon the labors of others, requires not only the capability of receiving an exact mental copy or imprint of all the objects of sense or reasoning;—it also requires the power of reviving or reproducing, at will, all the impressions or ideas before obtained, and, also, the power of changing their collocations, of rearranging them into new forms, and of adding something to, or removing something from, the original perceptions, in order to make a more perfect plan or model.

Now, every recitation in a school, if rightly conducted, is a step towards the attainment of this wonderful power. With a course of studies judiciously arranged, and diligently pursued through the years of minority, all the great phenomena of external nature, and the most important productions in all the useful arts, together with the principles on which they are evolved or fashioned, would be successively brought before the understanding of the pupil. He would thus become familiar with the substances of the material world, and with their manifold properties and uses, and he would

learn the laws,—comparatively few,—by which results; infinitely diversified, are produced. When such a student goes out into life, he carries, as it were, a plan or model of the world, in his own mind. He cannot, therefore, pass, either blindly or with the stupid gaze of the brute creation, by the great objects and processes of nature; but he has an intelligent discernment of their several existencies and relations, and their adaptation to the uses of mankind. Neither can he fasten his eye upon any workmanship or contrivance of man, without asking two questions,—first, how is it? and, secondly, how can it be improved? \* \* \*

Intelligence is the great money-maker, not by extortion, but by production. There are ten thousand things in every department of life, which, if done in season, can be done in a minute, but which, if not seasonably done, will require hours, perhaps days or weeks, for their performance. An awakened mind will see and seize the critical juncture; the perceptions of a sluggish one will come too late, if they come at all. A general culture of the faculties gives versatility of talent, so that if the customary business of the laborer is superseded by improvements, he can readily betake himself to another kind of employment; but, an uncultivated mind, is like an automaton which can do only the one thing for which its wheels or springs were made. \* \* \*

And why is it that, so far as this Union is concerned, four fifths of all the improvements, inventions and discoveries in regard to machinery, to agricultural implements, to superior models in ship-building, and to the manufacture of those refined instruments on which accuracy in scientific observations depends, have originated in New England. I believe no adequate reason can be assigned, but the early awakening and training of the power of thought in our children. The suggestion is not made invidiously, but in this connection it has too important a bearing to be omitted,—but let any one, who has resided or travelled in those States where there are no Common Schools, compare the condition of the people at large, as to thrift, order, neatness, and all the external signs of comfort and competence, with the same characteristics of civilization in the farm-houses and villages of New England. \* \* \*

In conversing with a gentleman who had possessed most extensive opportunities for acquaintance with men of different countries and of all degrees of intellectual development, he observed that he could employ a common immigrant or a slave, and if he chose, could direct him to shovel a heap of sand from one spot to another, and then back into its former place, and so to and fro, through the day; and that, with the same food or the same pay, the laborer would perform his tread-mill operation without inquiry or complaint; but, added, he, neither love nor money would prevail on a New Englander to prosecute a piece of work of which he did not see the utility. \* \* \*

It is a fact of universal notoriety, that the manufacturing population of England, as a class, work for half, or less than half the wages of our own. The cost of machinery there, also, is but about half as much as the cost of the same articles with us; while, our capital when loaned, produces nearly double the rate of English interest. Yet, against these grand adverse circumstances, our manufacturers, with a small per centage of tariff, successfully compete with English capitalists, in many branches of manufacturing business. No explanation can be given of this extraordinary fact, which does not take into the account, the difference of education between the operatives in the two countries. Yet where, in all our Congressional debates upon this subject, or in the discussions and addresses of National Conventions, has this fundamental principle been brought out,—and one, at least, of its most important and legitimate inferences displayed, viz., that it is our wisest policy, as citizens,—if indeed it be not a duty of self-preservation as men,—to improve the education of our whole people, both in its quantity and quality. I have been told by one of our most careful and successful manufacturers, that on substituting, in one of his cotton-mills, a better for a poorer educated class of operatives, he was enabled to add twelve or fifteen per cent. to the speed of his machinery, without any increase of damage or danger from the acceleration. \* \* \*

The number of females in this State, engaged in the various manufactures of cotton, straw-plaiting, &c. have been estimated at forty thousand; and the annual value of their labor, at one hundred dollars each, on an average, or four millions of dollars for the whole. From the facts stated in the letters of Messrs. Mills and Clark, above cited, it appears that there is a difference of not less than fifty per cent, between the earnings of the least educated and of the best educated operatives,—between those who make their marks, instead of writing their names, and those who have been acceptably employed in school-keeping. Now, suppose the whole forty thousand females engaged in the various kinds of manufactures in this Commonwealth, to be degraded to the level of the lowest class, it would follow that their aggregate earnings would fall at once, to two millions of dollars. But, on the other hand, suppose them all to be elevated by mental cultivation to the rank of the highest, and their earnings would rise to the sum of six millions of dollars, annually.

#### EXTRACTS

From Minutes of Evidence taken by Edwin Chadwick, Esq., Secretary of the Poor Law Commissioners.

By Albert G. Escher, Esq., one of the firm of Escher, Wyss & Co., Zurich, Switzerland.

We employ from six to eight hundred men in our machine making establishment at Zurich: we also employ about two hundred men

in our cotton mills there; about five hundred men in our cotton manufactories in the Tyrol and in Italy. I have occasionally had the control of from five to six hundred men engaged in engineering operations as builders, masons, &c., and men of the class called navigators in England.

In what order do you class the workmen of various nations in respect to such natural intelligence as may be distinguished from any intelligence imparted by the labors of the school-master?

I class the Italians first; next the French; and the northern nations very much on a par.

The Italians' quickness of perception is shown in rapidly comprehending any new description of labor put into their hands, of quickly comprehending the meaning of their employer, of adapting themselves to new circumstances, much beyond what any other classes have. The French workmen have the like natural characteristics, only in a somewhat lower degree. The English, Swiss, German, and Dutch workmen, we find, have all much slower natural comprehension.

As workmen *only*, the preference is undoubtedly due to the English; because as we find them they are all trained to special branches, on which they have had comparatively superior training and have concentrated all their thoughts. As men of business or of general usefulness, and as men with whom an employer would best like to be surrounded, I should, however, decidedly prefer the Saxons and the Swiss, but more especially the Saxons, because they have had a very careful general education, which has extended their capacities beyond any special employment, and rendered them fit to take up, after a short preparation, any employment to which they may be called. If I have an English workman engaged in the erection of a steam-engine, he will understand that and nothing else; he will understand only his steam-engine, and for other circumstances or other branches of mechanics, however closely allied, he will be comparatively helpless to adapt himself to all the circumstances that may arise, to make arrangements for them, and give sound advice or write clear statements and letters on his works in the various related branches of mechanics.

The Saxon or the educated workman will under the same circumstances much sooner advance and become a foreman or manager. In other words, he will be found by his employer more generally useful.

The better educated workmen we find are distinguished by superior moral habits in every respect. In the first place, they are entirely sober; they are discreet in their enjoyments, which are of a more rational and refined kind; they are more refined themselves, and they have a taste for much better society, which they approach respectfully, and consequently find much readier admittance to it; they culti-

vate music; they read; they enjoy the pleasures of scenery, and make parties for excursions into the country; they are economical, and their economy extends beyond their own purse to the stock of their master; they are consequently honest and trustworthy. The effects of the deficiency of education is most strongly marked in the Italians, who, with the advantage of superior natural capacity, are of the lowest class of workmen, though they comprehend clearly and quickly, as I have stated, any simple proposition made or explanation given to them, and are enabled quickly to execute and kind of work when they have seen it performed once; yet their minds, as I imagine from want of development by training or school education, seem to have no kind of logic, no power of systematic arrangement, no capacity for collecting any series of observations and making sound inductions from the whole of them. This want of the capacity of mental arrangement is shown in their manual operations. An Italian will execute a simple operation, with great dexterity; but when a number of them are put together all is confusion; they cannot arrange their respective parts in a complicated operation, and are comparatively inefficient except under a very powerful control. As an example of this I may mention that within a few years after the first introduction of cotton spinning in Naples, in the year 1830, the spinners produced twenty-four hanks of cotton yarn from No. 16 to 20 per spindle, which is equal to the production of the best English hands; yet up to this time not one of the Neapolitan operatives is advanced far enough to take the superintendence of the operations of a single room, the superintendents being all northerns, who, though much less gifted by nature, have obtained a higher degree of order or arrangement imparted to their minds by a superior education. This example is derived from a new branch of industry; others have come within my experience in branches of industry in which the Italians excel, such as in masons' work. I look on the Neapolitans individually as being the most skillful masons in Europe. When, however, they are employed in numbers and concentrated masses, the same want of what I call logical arrangement again becomes perceptible, and I have constantly been obliged to employ as superintendents, northerns, such as the better educated Swiss and Germans, who, though inferior in personal ability, were from education fit to arrange and control the work with forethought and system. These observations apply to the Neapolitan workmen. Those in the north of Italy, chiefly in Lombardy, who have a comparatively better education, from a forethought and arrangement to their natural capacity, and in those employments in which they have experience, such as agriculture, road-making, and canal-digging, they are equal, if not superior, to the workmen of any nation, as must be evident



to those persons who observed the skill and expedition with which the Alpine passes, and that masterpiece of civil engineering, the road along the Lake of Como, and other similar works, were executed.

What are the characteristics of the Scotch workmen?

We find that they get on much better on the continent than the English, which I ascribe chiefly to their better education, which renders it easier for them to adapt themselves to circumstances, and especially in getting on better with their fellow-workmen and all the people with whom they come in contact. Knowing their own language grammatically, they have comparatively good facility in acquiring foreign languages. They have a great taste for reading, and always endeavor to advance themselves in respectable society, which makes them careful of their conduct and eager to acquire such knowledge as may render themselves acceptable to better classes.

Do you find these Scotch workmen equal to the Northern Germans and Saxons?

As workmen they may, on account of their special and technical education, be superior, but as men in their general social condition they are not so refined, and have lower tastes; they are lower in school education, and have less general information than the Saxons or other Northern Germans.

In what system of education have the Saxons been brought up?

In the Prussian system, or one similar, which is also the system in which the younger people in Switzerland are brought up.

In the free Cantons of Switzerland is the education national and compulsory?

In the Protestant Cantons it is entirely so. No child can be employed in any manufactory until it has passed through the primary schools; and it is further under the obligation of attending the secondary schools until its sixteenth or seventeenth year of age. And under all circumstances, and for every description of employment, it is obligatory on parents to send their children to the public schools until they are absolved from the obligation by an examination as to the sufficiency of the education.

In respect to order and docility what have you found to be the rank of your English workmen?

Whilst in respect to the work to which they have been specially trained they are the most skilful, they are in conduct the most disorderly, debauched, and unruly, and least respectable and trustworthy of any nation whatsoever whom we have employed, (and in saying this I express the experience of every manufacturer on the continent to whom I have spoken, and especially of the English manufacturers, who make the loudest complaints.) These characteristics of depravity do not apply to the English workmen who have received an education, but attach to the others in the degree in which

they are in want of it. When the uneducated English workmen are released from the bonds of iron discipline in which they have been restrained by their employers in England, and are treated with the urbanity and friendly feeling which the more educated workmen on the continent expect and receive from their employers, they, the English workmen, completely lose their balance: they do not understand their position, and after a certain time become totally unmanageable and useless. The educated English workmen in a short time comprehend their position, and adopt an appropriate behavior.

In the present state of manufactures, where so much is done by machinery and tools, and so little is done by mere brute labor (and that little is diminishing), mental superiority, system, order, and punctuality and good conduct—qualities all developed and promoted by education—are becoming of the highest consequence. There are now, I consider, few enlightened manufacturers who will dissent from the opinion, that the workshops peopled with the greatest number of educated and well-informed workmen will turn out the greatest quantity of the best work in the best manner.

What are the characters of the English workmen as inhabitants, and how are they received by the inhabitants of Zurich?

The uneducated English workmen were so disagreeable as lodgers, having such disorderly and bad habits, spoiling the rooms, emptying vessels out of the windows, offending the people in the streets, and contravening the police regulations, and rendering their interference necessary for the preservation of the peace, that they find it difficult to get lodgings, and are obliged to pay more for them. Such extra charges they call impositions. I am sorry to say that some of the best description of the English workmen,—one of the most superior of the English workmen, to whom we gave 5*l.* a-week wages, had so lowly bred and educated a family (he came from Oldham, where they are notorious for the want of education) that this salary scarcely sufficed for his expenses—do not take so high a standing as foreign workmen who only receive 50*l.* a-year. We had the greatest difficulty to procure for himself and his family lodgings; and we have had constant complaints respecting the family from the landlords, such as we have never had respecting any foreigners. I am far from saying that we have no disorderly or debauched foreign workmen, but these always belong to a lower educated, a lower skilled, and a lower paid class. When foreign workmen rise in pecuniary condition to those on equality with the English workmen, they always rise in respectability of condition and behavior. A Saxon or Swiss foreman, or over-looker, with 120*l.* a-year, will be with his family respectably dressed, live in a respectable house, and his table will be provided with good though simple food; his children will be well

educated, he will himself frequent museums or casinos, or other respectable and comparatively intellectual places of resort, and lay by perhaps 20*l.* a-year; whereas an English over-looker of the lower description will live in a less respectable manner in every way; he will live in a worse house, that house will be dirtier, he will frequent common wine-houses, and be consequently in a much lower scale of society, and expend at least 150*l.* a-year; and when work fails he will be in a state of destitution. From the accounts which pass through my hands, I invariably find that the best educated of our work-people manage to live in the most respectable manner at the least expense, or make their money go the furthest in obtaining comforts. This applies equally to the work-people of all nations that have come under my observation; the Saxons, and the Dutch, and the Swiss being, however, decidedly the most saving, without stinting themselves in their comforts, or failing in general respectability. With regard to the English, I may say that the educated workmen are the only ones who save money out of their very large wages. By education, I may say, that I throughout, mean not merely instruction in the arts of reading, writing, and arithmetic, but better general mental development; the acquisition of better tastes, and of mental amusements and enjoyments which are cheaper, whilst they are more refined. The most educated of our British workmen is a Scotch engineer, a single man who has a salary of 3*l.* a-week, or 150*l.* per year, of which he spends about one-half; he lives in very respectable lodgings, he is always well dressed, he frequents reading-rooms, he subscribes to a circulating library, purchases mathematical instruments, studies German, and has every rational enjoyment. We have an English workman, a single man, also, of the same standing, who has the same wages, also a very orderly and sober person; but as his education does not open to him the resource of mental enjoyment, he spends his evenings and Sundays in wine-houses, because he cannot find other sources of amusement, which presuppose a better education, and he spends his whole pay, or one-half more than the other. The extra expenditure of the workman of lower education of 75*l.* a-year arises entirely, as far as I can judge, from inferior arrangement, and the comparatively higher cost of the mere sensual enjoyment in the wine-house. The wine-houses which he frequents may be equivalent to the better public-houses in England.

William Fairbairn, Esq., Proprietor of a manufactory in Manchester, and part owner of another establishment in London.

The mechanics who come from Scotland, and the north of England, Cumberland, and Northumberland, have generally received a tolerably good elementary education. Those from Scotland have been generally educated in the parochial school; they read and write;

they are in general good arithmeticians, and in many instances they have a knowledge of the lower branches of mathematics; some of them draw very well. The English workmen from the northern counties are similarly, but variously, and not so well educated as the Scotch, and I attribute it to the want of parochial schools, which in my opinion are invaluable in Scotland. The Irish mechanics that we have here are chiefly from the north of Ireland, and in point of school education they rank very nearly with the mechanics from the English northern counties, though they are somewhat lower in technical training as mechanics. The mechanics from Yorkshire, Lincolnshire, and the south of England are below those of the northern counties, though they are very good mechanics.

The better education in the counties of Durham and Northumberland does not arise from endowed schools, but from schools conducted on the Scotch parochial principle, and supported by the fees paid by the scholars, as also from the amalgamation of that part of the English with the Scotch population on the borders, and a similarity of habit or impression respecting the advantages of education. The parents of children in those counties are very generally aware of the advantages of the Scotch system of education.

I observe amongst the better class of Scotch workmen who have come out of, probably, very inferior cottages, a strong disposition to advance in self-respect in proportion to their better education. They have more self-respect, which is shown in cleanliness and better dress on Sundays. It is always an indication of looseness of character, and a low standard of moral conduct, to see a mechanic in dirt, or in his working clothes on Sunday. Thirty years' experience leads me to draw a very unfavorable conclusion as to the future usefulness to me, and of success to himself, of any workman whom I see in dirt on a Sunday.

Better personal condition leads to better associates, and commonly to better marriage, on which the improved condition of the house is entirely dependent. It is due to the laboring classes of females in Lancashire and the surrounding districts to state, that in the important household virtue of cleanliness they are superior to the females of the same class in Scotland.

The best educated are invariably intrusted with the most important parts of the work; the Scotch workmen first, then the workmen from the northern counties. If there be any intricate work in anything that requires close mental application, as a class we always select the men of the best school education first. In outdoor work, when, for example, there is a steam-engine, or a water-wheel, or mill-work to erect, a foreman or some responsible workman must be chosen, and the choice in nine cases out of ten falls on the man of the best school education. It is then found to be very useful to have

a man capable of making a drawing, taking dimensions, or sending a letter.

In respect to change of operations, do you experience any advantages traceable to the school education of the best workmen?

Yes, we certainly find that those who have had a good school education have had a better conception of the organization and system implied in change of operation. It appears to require mental training in early life to enable a man to arrange a sequence of operations in the best manner for clear and efficient practical efforts. Men with such capacity we rarely find, except amongst those who have had a school education. Occasionally self-educated men arise who, under the influence of strong motives, do more for themselves than any existing methods of school education could have done for them; but these men are extremely rare; they are but solitary instances.

In the manual operations do you perceive any differences of skill traceable to school education?

No, not in the lower divisions of labor, or working at particular parts; some of the least educated mechanics are often extremely good workmen; the manual operation is one requiring training in itself. The combination of parts is an operation effected by school education.

In all questions respecting wages we always find the best educated workmen the most reasonable in their demands, and the most peaceable in their behavior, most readily assenting to proper changes, whether for or against themselves. An extensive employer of labor having a desire to improve the condition of the working classes may frequently have to propose changes, really of no advantage to himself, but for their benefit; but which ignorant and uneducated workmen, in the blind jealousy which they are accustomed to entertain, oppose as strongly as if they were changes to their disadvantage. This is not unfrequently the case. It is of great importance to strengthen the relations between the master and the workman. The relation between the educated workman and the employer is generally much stronger than between the uneducated workman and his employer.

It is observable that those who have received a school education associate together, as might be expected, from similarity of tastes and pursuits; the best educated are the most peaceable, and work the most pleasantly together.

There is no doubt that the educated are more sober and less dissipated than the uneducated. During the hours of recreation the younger portion of the educated workmen indulge more in reading and mental pleasures; they attend more at reading rooms, and avail themselves of the facilities afforded by libraries, by scientific lectures, and Lyceums. The older of the more educated workmen spend their time

chiefly with their families, reading and walking out with them. The time of the uneducated classes is spent very different, and chiefly in the grosser sensual indulgencies.

There has indeed arisen a new and very important class of mechanics in this country within the last fifteen years; namely, those who are required for the construction and management of new works, such as the railroads, the locomotive engines, the engines required in steam navigation, and the machinery for carrying on the manufactures of the country. I think it very desirable that public means should be extended to increase by education the number of this class of mechanics who are at once moral in their conduct, and highly important to the manufacturing prosperity of the country.

So far as I could as a private individual, I have promoted institutions for the advancement of education. I have in Manchester given my time as president of a Lyceum, as they are called, for the use of the working classes. This is an institution of a more practical nature than most mechanics' institutions. It furnishes the means of instruction in arithmetic, mathematics, drawing, and mensuration, and by lectures; and furnishes amusement also by reading-rooms, where they may take their coffee, and by museums.

What description of education do you think desirable in schools with the views you mention?—It would, I think, be desirable to carry further the instruction in arithmetic, and to add some elementary instruction in practical mathematics. They would then be prepared for instruction in the Lyceums, or in well managed mechanics' institutions.

The main thing, it appears to me, for their social improvement is to provide for the occupation of their leisure hours; the first of these is to make the home comfortable, and to minister to the household recreation and amusement: this is a point of view in which the education of the wives of labouring men is really of very great importance, that they may be rational companions for men. In this point of view also, I think it very important that whatever out-door amusements are provided, should not be provided for the men alone, but rather for the men and wives together, and their children.

Do you at the Lyceum make any arrangements for carrying out this principle?—Yes; we make a particular point of it. For example, a few nights ago a tea-party was given, to which the wives and families of the members were admitted, and at which there were various amusements. There was an exhibition of the musical glasses; there was also a piano for some instrumental and some vocal music; there were reading and recitations from favourite authors, and very great entertainment was given at a very cheap rate to 400 or 500 men, women, and children. The opening of public walks, which might be resorted to by the men



and families in fine weather, and gardens would, as appears to me, be very valuable additions to these means. It is for such public occasions amongst others that I am for seeing the working-people well dressed, and that I should never care to what extent of finery they carry it, as I believe it all tends to increase their self-respect. It was highly gratifying at the tea-party, at the Lyceum, to see the extreme neatness and respectability of dress of the workingmen and their families.

#### EDUCATION AND INSANITY.

A defective and faulty education, through the period of infancy and childhood, may, perhaps, be found to be the most prolific cause of insanity; by this, in many, a predisposition is produced, in others it is excited, and renders uncontrollable the animal propensities of our nature. Appetites indulged and perverted, passion unrestrained, and propensities rendered vigorous by indulgence, and subjected to no salutary restraint, bring us into a condition in which both moral and physical causes easily operate to produce insanity, if they do not produce it themselves.

We must look to a well directed system of education, having for its object physical improvement, no less than mental and moral culture, to relieve us from many of the evils which "flesh is heir to," and nothing can so effectually secure us from this most formidable disease, as well as others not less appalling, as that system of instruction which teaches us how to preserve the body and the mind; to fortify the one from the catalogue of physical causes which every where assail us, and which elevates the other above the influence of the trials and disappointments of life, so that the hosts of moral causes which affect the brain, through the medium of the mind, shall be inoperative and harmless.—*Dr. S. B. Woodward's Seventh Annual Report as Superintendent of State Lunatic Asylum, Worcester Mass.*

Those first principles of physical education which teach us how to avoid disease, are all-important to all liable to insanity from hereditary predisposition. The physical health must be attended to, and the training of the faculties of the mind be such as to counteract the active propensities of our nature, correct the disposition of the mind to wrong currents and too great activity, by bringing into action the antagonizing powers, and thus giving a sound body and a well balanced mind. Neglect of this early training entails evils upon the young which are felt in all after life.—*Do. Eighth Annual Report.*

A knowledge of the nature of the disease would frequently lead to its prevention. Insanity in most cases arises from undue excitement and labor of the brain, for even if a predisposition to it is inherited, an exciting cause is essential to its development. Hence every thing likely to cause great excitement of the brain, especially in early life, should be avoided.

The records of cases at this institution, and my own observation justify me in saying that the neglect of moral discipline,—the too great indulgence of the passions and emotions in early

life, together with the excessive and premature exercise of the mental powers, are among the most frequent causes that predispose to insanity. But these causes are in no other way operative in producing insanity, than by unduly exciting the brain. By neglect of moral discipline, a character is formed subject to violent passions, and to extreme emotions, and anxiety from the unavoidable evils and disappointments of life, and thus the brain, by being often and violently agitated, becomes diseased; and by too early exercising, and prematurely developing the mental powers, this organ is rendered more susceptible and liable to disease.

I am confident there is too much mental labor imposed upon youth at our schools and colleges. There have been several admissions of young ladies at this institution, direct from boarding-schools, and of young men from college, where they had studied excessively. Should such intense exertion of the mind in youth not lead to insanity, or immediate disease, it predisposes to dyspepsia, hysteria, hypochondriasis, and affections allied to insanity, and which are often its precursors. Should that portion of the community who now act most wisely in obtaining a knowledge of the functions of the digestive organs, and in carefully guarding them from undue excitation, be equally regardful of the brain, they would do a very great service to society, and in my opinion, do much towards arresting the alarming increase of insanity, and all disorders of the nervous system.\*—*Eighteenth Annual Report of the Physician and Superintendent (Dr. A. BRIGHAM,) of the Connecticut Retreat for the Insane, for 1842.*

#### EDUCATION AND CRIME.

The following statistics are gleaned from various official documents respecting prisons.

The Rev. Dr. Forde, for many years the Ordinary of Newgate, London, represents *ignorance*, as the first great cause, and *idleness*, as the second, of all the crimes committed by the inmates of that celebrated prison.

Sir Richard Phillips, sheriff of London, says, that on the memorial addressed to the sheriffs by 152 criminals in Newgate, 25 only signed their

\* In the education of many, very many I fear, the same mistake is made, as in the case of Lord Dudley, thus described in a late number of the London Quarterly Review.

"The irritable susceptibility of the brain was stimulated at the expense of bodily power and health. His foolish tutors took a pride in his precocious progress which they ought to have kept back. They watered the forced plant with the blood of life; they encouraged the violation of nature's laws, which are not to be broken in vain; they infringed the condition of conjoint moral and physical existence; they imprisoned him in a vicious circle, where the overworked brain injured the stomach, which re-acted to the injury of the brain. They watched the slightest deviation from the rules of logic, and neglected those of dietetics, to which the former are a farce. They thought of no exercises but Latin—they gave him a Gradus instead of a cricket-bat, until his mind became too keen for its mortal coil, and the foundation was laid for ill health, derangement of stomach, moral pusillanimity, irresolution, lowness of spirits, and all the Protean miseries of nervous disorders, by which his after life was haunted, and which are sadly depicted in almost every letter before us."

names in a fair hand, 26 in an illegible scrawl, 101 were *marksmen*, signing with a cross. Few of the prisoners could read with facility, more than half could not read at all, most of them thought books useless, and were totally ignorant of the nature, object, and end of religion.

The Rev. Mr. Clay, chaplain to the house of Correction, in Lancashire, represents that out of 1129 persons committed, 554, could not read; 222, were barely capable of reading; 38, only could read well; and only 8, could read and write well.

Out of the 1129 prisoners, 516 were quite ignorant of the simplest truths; 995 were capable of repeating the Lord's Prayer; 37 were occasionally readers of the Bible; and 1 was familiar with the Holy Scriptures, and conversant with the principles of religion.

Among the 516 persons entirely ignorant, 125 were incapable of repeating the Lord's Prayer.

The Chaplain of the county gaol in Warwick, reports of the prisoners in 1836:—Their condition as regards education is this; of every twenty-four who are committed, on an average seven have been taught to read and write; eight can read only; and nine can do neither; most of those who can write can read tolerably well, though their writing is generally a very poor performance; but at least the half of those who can read only, do it very badly. With regard to those important parts of education, religion and morality, generally speaking, no instruction whatever appears to have been given to them; for in the vast majority of instances, the persons who come to prison are utterly ignorant, both of the simplest truths of religion and of the plainest precepts of morality. Further, it seldom happens that any effort has been made to bring the reasoning faculties into healthy exercise; and the mind, being thus left blank, as far as regards every thing that is good, it ceases to be a wonder that evil principles should so readily be adopted.

Out of 138 prisoners (participants in the agricultural riots of 1831.) committed to Reading gaol, 25 only could write, 37 only could read, and 76 could neither read nor write; 120 were under 40 years of age, varying from 35 down to 18 years. Of the 30 prisoners tried at Abingdon, 6 only could read and write, 11 could read imperfectly, the remainder were wholly uneducated. Of the 79 prisoners convicted at Aylesbury, only 30 could read and write. Of 332 committed for trial at Winchester, 105 could neither read nor write; nearly the whole number were deplorably ignorant of even the rudiments of religious knowledge. About one half of the prisoners committed to Maidstone gaol, could neither read nor write.

Out of the whole number of commitments (23,612) in England and Wales as returned to the Home Department in 1837, 8,464 were unable to read or write; 2,234 only could read and write well, and only 101 had received a superior education. Of all the criminal offenders, one half of one per cent. had received any education beyond mere reading and writing. Out of the whole number, 358 were under 12 years of age, and were totally uninstructed.

In Prussia, after their school system, perfected

in 1819, had been in operation fourteen years, while the population of the kingdom had increased 3 per cent., the proportion of paupers and criminals had decreased 38 per cent.

In the New York State Prisons, as examined in 1837, more than three fourths of the convicts had received no education, or a very imperfect one. Out of 842 at Sing Sing, 289 could not read or write, and only 42 had received a good common school education. Out of 670 in the Auburn prison, only 204 had received a common school education and an academical one. Out of 228 in the same prison in 1835, 59 could read, write and cypher; 56 could read and write only; 50 could only read; and 60 could neither read nor write.

In the new penitentiary in Philadelphia, of 217 prisoners received in 1835, 63 can neither read nor write, 60 can read only, and 85 can read and write, but most of them very indifferently.

The chaplain of the Ohio penitentiary remarks: "Not only in our prison, but in others, depraved appetites and corrupt habits, which have led to the commission of crime, are usually found with the ignorant, uninformed, and duller part of mankind. Of the 276, nearly all below mediocrity, 175 are grossly ignorant, and, in point of education, scarcely capable of transacting the ordinary business of life.

The chaplain of the Connecticut State Prison in 1838, states, that out of 190 prisoners, not one was liberally educated, or a member of either of the learned professions. Of the whole number, 109 were natives of Connecticut, and of these, many of them could not understand the plainest sentences which they read, and their moral culture had been more neglected than their intellectual. From the investigations of this officer, it appears, that out of every 100 prisoners, only 2 could be found who can read, write and were temperate: only 4 who could read, write, and followed any regular trade; 46, or nearly one half, could read and write; 32 could read only; and 22 could neither read nor write.

The following extract explains an otherwise alarming fact in the history of this prison.

Since the prison has been established in this place, some seven or eight years ago, the number of convicts has considerably increased, and hence, the French commissioners, and English gentlemen may have naturally inferred, that there must have been an increase of crime in equal proportion. But the truth of this matter seems to lie here. As soon as the new prison was built, the criminal code was revised, and alterations made so as to punish a larger number of offences with confinement in the State Prison. Besides, because the discipline of the prison was thought to have a strong tendency to reform those, who came under its influence, and as such economy was used, as to make the labor of the convicts more than meet the expenses of the whole establishment, the courts in the different counties, were more than ever before inclined to sentence individuals to the State Prison for the same offences,